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Sharing AlaWai_Sub-b...

Participants (1)

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Tyson Vaughan
Host, me

Chat

from Tyson Vaughan to everyone: 12:25 PM
Tyson Vaughan, USACE.

To: Everyone

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ALA WAI FLOOD RISK MANAGEMENT GENERAL RE-EVALUATION STUDY

SUB-BASIN WORKSHOP 4: WHOLE WATERSHED

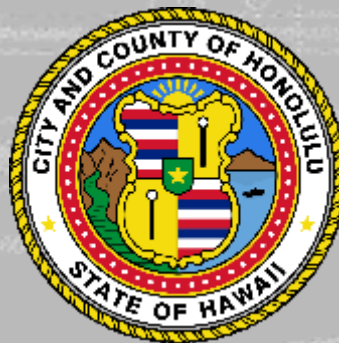
US Army Corps of Engineers (USACE)
City and County of Honolulu (CCH)

22 April 2022

***This session is being recorded.**



US Army Corps
of Engineers®



Eric Tessmer (2017)





SCHEDULE: SUB-BASIN WORKSHOPS



1. April 1, 2022 (F): Makiki and Pālolo Sub-basins
2. April 8, 2022 (F): Mānoa Sub-basin
3. April 14, 2022 (Th): Ala Wai Canal and Lower Watershed
4. **April 22, 2022 (F): Continued discussions (whole watershed)**

- Over 100 participants in first three April workshops
- Over 120 participants in Nov and Jan meetings
- 223 total management measures (~200 suggested by public)
- 168 Crowdsource Reporter comments
- Dozens of emails to AlaWai@honolulu.gov



PUBLIC RECORDS @ HONOLULU.GOV/ALAWAI

[Home](#)[Why this is important](#)[Public Engagement](#)[Resources](#)[FAQ](#)[Contact](#)

US Army Corps of Engineers,
Honolulu District Public Affairs
Bldg. 230, Room 302
Fort Shafter, HI 96858-5440
Phone: (808) 835-4004

ANNOUNCEMENTS

- [REMINDER FOR FRIDAY: Final Ala Wai - focused April Workshop](#)
- [UPDATED Management Measure Tracking Spreadsheet](#) (April 20, 2022)
- [SUBSCRIBE FOR UPDATES](#): Stay informed when updates are made to this website!
- [View the PRESS RELEASE](#) for information on the [Virtual Public Engagement Workshops in April 2022](#):

April 1, 2022, (Friday) 12 - 1:10 pm HST	Makiki and Pālolo Sub-Watershed <ul style="list-style-type: none">• (posted meeting minutes)• (workshop recording)
April 8, 2022, (Friday) 12 - 1:10 pm HST	Mānoa Sub-Watershed <ul style="list-style-type: none">• (posted meeting minutes)• (workshop recording)
April 14, 2022, (Thursday) 12 - 1:10 pm HST	Ala Wai Canal and Lower Watershed <ul style="list-style-type: none">• (posted meeting minutes)• (workshop recording)
April 22, 2022, (Friday) 12 - 1:10 pm HST	Continued Discussions / Q&A



HIGHLIGHTS: LOWER WATERSHED WORKSHOP



1. Continued constructive interest and engagement
2. Appreciation for value of measure tracker and these workshops
3. Concern with associated risks: sea level rise, contamination, erosion, etc.
4. Continued concern about effects of new developments in watershed (e.g., Ala Pono pedestrian bridge)
5. Is Ala Moana included? (Yes, it is.)
6. Discussion of risk communication terminology (“100-year” vs. 1% annual chance event, etc.)
7. Additional measures suggested and discussed
8. Seeking clarification of screening & analysis process (e.g., tiering)
9. Desire to see conceptual drawings, visualizations of measures



TODAY'S AGENDA: CONTINUED DISCUSSION



1. Introduction (5 min) ← You are here!
2. Presentation (15 min)
3. Breakout discussion setup (3 min)
4. Focused breakout discussions: management measures (~20 min)
5. Large-group discussion / Q & A (~20 min)
6. Wrap-up (7 min)



HOSTS & DISCUSSANTS



Presenters (USACE):

- **Eric Merriam**, PhD, PMP; Planner; *Study Lead*
- **Cindy Acpal**, Project Manager

MC / Lead Facilitator (USACE):

- **Tyson Vaughan**, PhD; Sociologist

Additional Facilitators (USACE):

- **Kelley Philbin**, PE; Engineer; *Technical Lead*
- **Susan Henshaw**, Planner
- **Ben Reder**, Project Manager

Discussants (CCH):

- **Alex Kozlov**, PE; Director, Department of Design and Construction, City & County of Honolulu
- **Haku Milles**, PE, LEED AP; Deputy Director, Department of Design and Construction, City & County of Honolulu
- **Matthew Gonser**, AICP, CFM; Chief Resilience Officer, Office of Climate Change, Sustainability and Resiliency, City & County of Honolulu



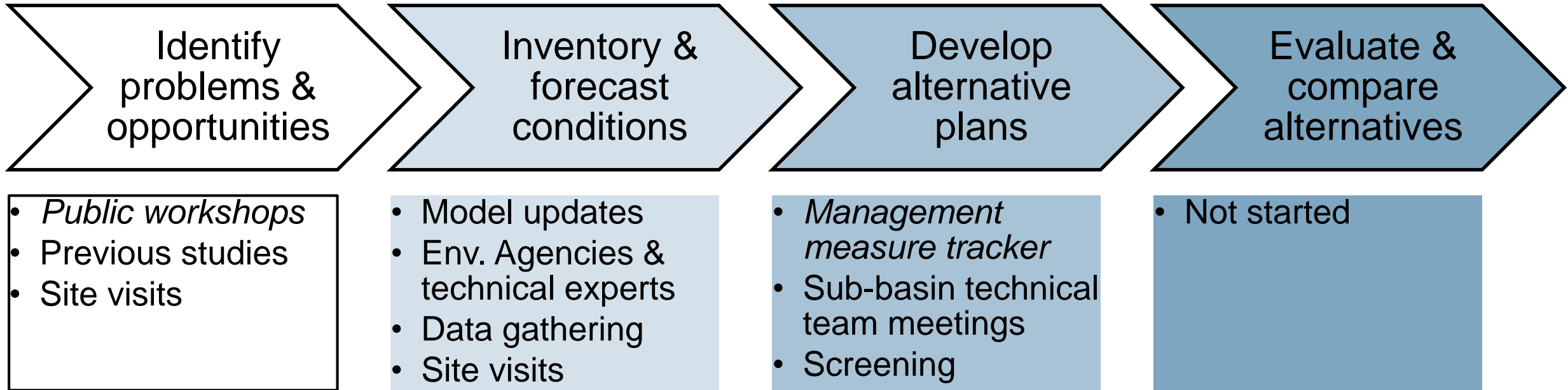
GROUND RULES: PRESENTATION



1. Post comments and questions in the chat or hold until breakouts.
2. Keep your audio on mute during the presentation.
3. If you are having technical difficulties, let us know via the chat and/or email to Tyson Vaughan: Earl.T.Vaughan@usace.army.mil.



STUDY PROCESS & PROGRESS

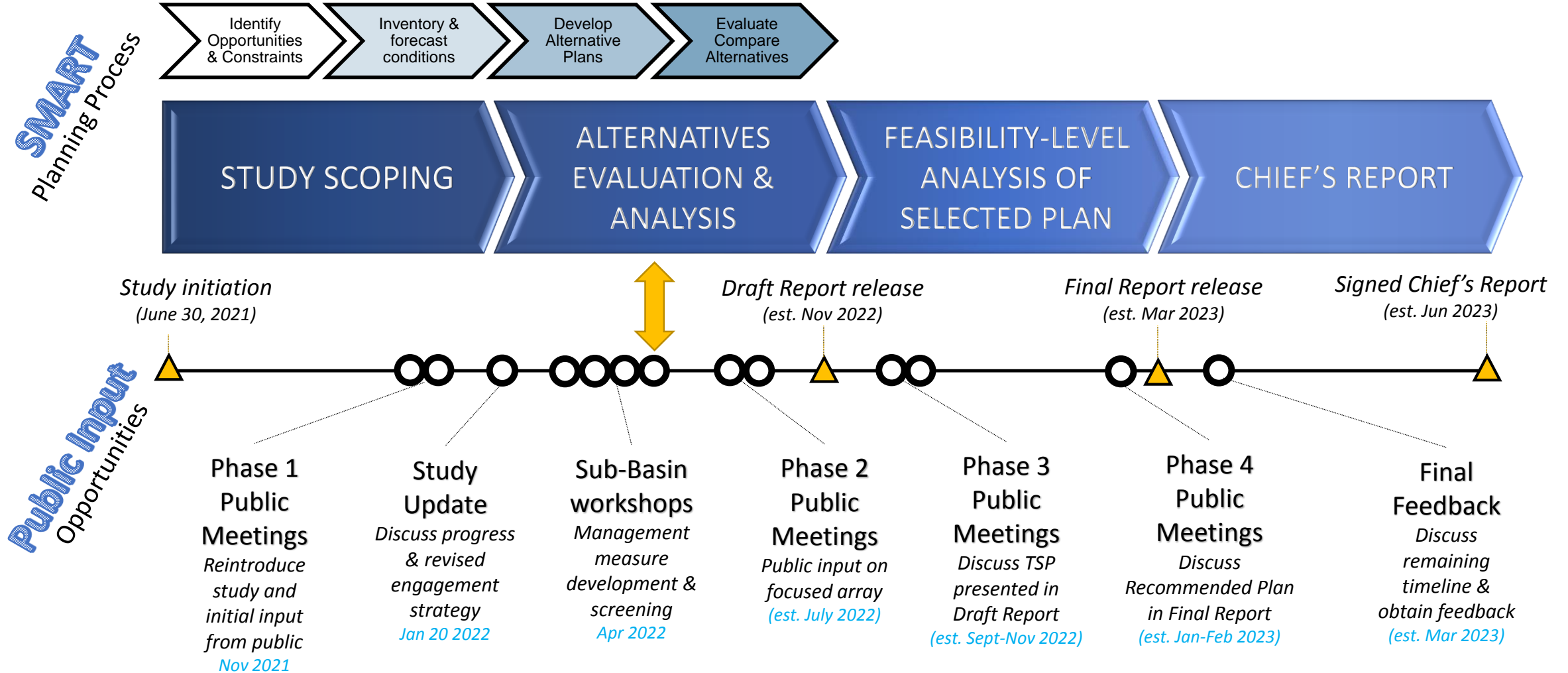


Progress Since Last Public Information Meeting:

- Hydrologic & hydraulic model updates and calibration
- Completed sub-basin management measure development meetings
- Initial round of management measure screening (ongoing)
- Technical team site visit from March 21-24



STUDY PROCESS & PROGRESS





MANAGEMENT MEASURE TRACKER

11



Management measure tracker:

– Available at:

<https://www.honolulu.gov/alawai/resources.html>

– Focused, real-time feedback on technical & planning process

223 measures being tracked

– 48 screened from further consideration

– 175 still under consideration

Analyses will be ongoing & updated in tracker

Ala Wai Flood Risk Management GR Study - Management Measure Tracking Spreadsheet
last updated: March 31, 2022

Tracking #	Measure Name	Location	Description	Status	Notes/Rationale
1	Flap gates on storm drains	Ala Wai Blvd. between Kalakaua and Ala Moana Blvd.	During high tide Ala Wai Blvd. between Kalakaua and the cul de sac ending at Ala Moana Blvd. floods. Ala Wai canal in this area needs flap gates to keep Ala Wai Canal water from flooding storm drains and flooding streets.	Under consideration	Provision, modification, and/or maintenance of drainage systems to capture and convey interior runoff in urban areas is a non-Federal responsibility and therefore cannot be included in a recommendation made as a result of this general reevaluation report. However, this study can make modifications to natural stream channels or previously modified natural waterways that help reduce backup within adjacent drainage systems.
2	Elevate canal walls	Ala Wai Canal	Increase canal capacity by elevating the existing canal floodwalls	Under consideration	
3	Deepen the canal	Ala Wai Canal	Excavate to deepen the existing canal and stabilize existing floodwalls.	Screened Out	Dredging to the maintenance elevation is encouraged for the City to maintain consistently. Deepening the canal further than the maintenance elevation is generally not recommended due to the stability of canal walls and slope stability. Increasing storage of the canal can technically reduce flooding but not without instability of the structural components of the bridges and canal walls. The integrity of the canal walls as-is would not withstand excavation - only replacing with an entirely new system would. Further analysis is needed to determine the stability of bridge pier and footings. See measure 5.
4	Deepen canal for periodic pump drainage	Ala Wai Canal	Dig existing walls deeper to turn the canal into a periodic pump drainage to address inundation by all three sources of flooding	Screened Out	Digging the existing walls deeper is not recommended due to their structural integrity. Pumping the canal to increase storage capacity is not recommended due to stability of the existing canal walls. Hydrostatic pressure is likely needed for structural stability. Technical analysis needed to determine structural stability of bridge piers and footings. See measure 5.
5	Deepen the canal, replace canal walls with higher flood protection	Ala Wai Canal	Dredge canal down to its original depth of 15' to 25', and replace the degraded infrastructure with new canal walls that are set for greater flood protection	Under consideration	The integrity of the canal walls as-is would not withstand greater dredging efforts than maintenance dredging - only replacing with an entirely new system would. Further analysis is needed to determine the appropriate wall height, the stability of bridge pier and footings, and the optimal depth that balances slope stability and flood storage.
6	Widen canal	Ala Wai Canal	Widen the canal to provide greater flow and storage capacity.	Under consideration	Widening the canal in strategic locations, namely at the Eastern end of the canal, could provide more flood storage. Further analysis is needed. Widening the canal for the entire length would require extensive real estate acquisitions with significant costs. Expanding canal storage through the use of floodwalls and/or utilizing existing storage areas along the canal (e.g., golf course, Ala Wai Community Park) are likely more efficient and are considered elsewhere.
7	Dredge Ala Wai Canal to original depth	Ala Wai Canal	Dredge canal down to its original depth of 15' to 25' since current dredging only goes down to 12'.	Screened Out	Dredging to the maintenance elevation is encouraged for the City to maintain consistently. Deepening the canal further than the maintenance elevation is generally not recommended due to the stability of canal walls and slope stability. Increasing storage of the canal can technically reduce flooding but not without instability of the structural components of the bridges and canal walls. The integrity of the canal walls as-is would not withstand excavation - only replacing with an entirely new system would. Further analysis is needed to determine the stability of bridge pier and footings. See measure 5.
8	Dredge Manoa-Palolo Channel	Manoa-Palolo Channel	Dredge the Manoa-Palolo channel	Under consideration	
9	Canal clean ups	Ala Wai Canal	Involve the community to conduct regular clean ups	Screened Out	Organizing clean-ups is outside the scope of the current study. Community involvement for clean ups after construction is a possibility; however, those initiatives those initiatives need to be initiated by other entities.
10	Effective Microorganisms (EM) to eliminate sludge	Ala Wai Canal	Use "genki balls" to clean up and eliminate sludge in the canal. These healthy microorganisms work to digest sludge in the canal which will help not only to evacuate water from the canal quicker, but also restore the ecosystem and reduce frequency for dredging.	Screened Out	Sludge eliminated by the genki balls would have to be extensive enough to reduce flood risk in order to be justified under the current study. Genki balls would eliminate the organic matter within the canal, which only makes up a small portion of material within the canal. Genki balls as a standalone measure would not provide enough reduction in material to increase storage capacity of the canal and reduce flood waters. Genki balls could be incorporated into a separate effort focused on ecosystem restoration.
11	Oysters to clean the canal	Ala Wai Canal	Use oysters as filters to clean the canal waters.	Screened Out	Improving water quality is outside the scope of this project. Debris management will likely be most effective when utilized in conjunction with other measures (e.g., combined storage/debris management basins; structural modifications to bridges).
12	Debris management	Watershed wide	Better manage the debris that ends up in the canal	Under consideration	
13	Submersible pumps	Ala Wai Canal	Use underwater pumps to create a lower profile pumping station	Under consideration	
14	Miter gates	Ala Wai Canal	Use several smaller radius miter gates to minimize visual impacts (to be used in conjunction with pump station)	Under consideration	
15	Lowered gate structure	Ala Wai Canal	Use a lowered structure underwater that could be raised in an event instead of a miter dam. (to be used in conjunction with pump station)	Under consideration	
16	Retractable flood barriers	Ala Wai Canal	Relocate pump station to the golf course. Use a series of retractable flood barriers that would allow for 4 rowing lanes (44' wide) across the width of the canal.	Under consideration	

NOTE: Only displaying measures 1-16 of 223 total.



Iteration 1 (Complete)

Screening criteria:

- Study Authority – Is it within study authority?
- Technical Feasibility – Is it technically feasible?
 - Existing data and conditions, engineering standards and best practices

Iteration 2 (Ongoing)

Screening/tiering criteria:

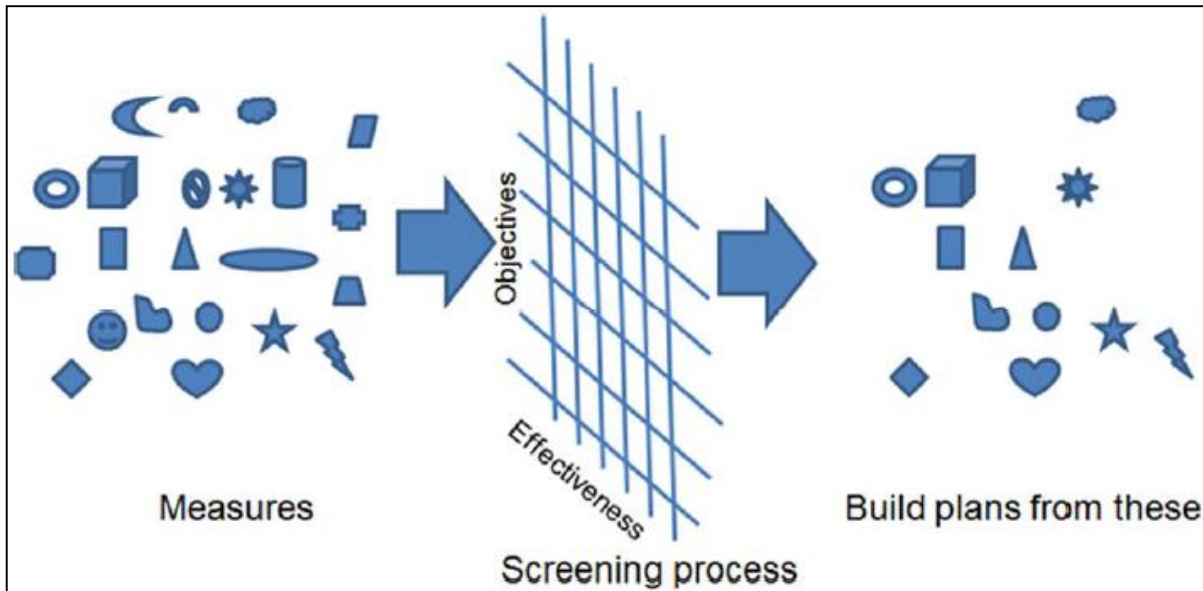
- Effectiveness – Extent it would reduce life risk and/or economic damages.
- Efficiency – Expected cost-effectiveness.
- Environmental Considerations – Benefits/impacts.

Existing models/data: water volumes, expected damages, high-level costs

Tiering to prioritize analyses:

- Tier 1: Highest analytical priority. Results could screen other measures.
- Tier 2: Assessed after Tier 1 measures.
- Tier 3: Assessed after Tier 2 measures.

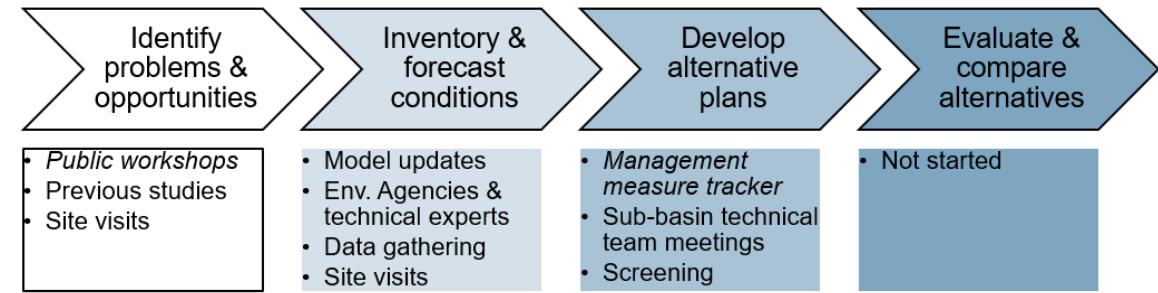
Not a hierarchy of importance. Allows team to maximize efficiency. All measures will be assessed.





NEXT STEPS: TECHNICAL

May – June 2022



1. Finalize measure screening
2. Combine measures into a focused array of basin-wide alternatives
 - Iterative process – larger array of initial plans reworked into smaller final array.
 - Alternatives formulated to meet study objectives.
 - ***‘Plan formulation tracker’ will be developed and posted to website.***

Planning Objectives

1. Reduce risks to life and safety associated with direct inundation of structures and transportation infrastructure.
2. Reduce economic damages associated with direct inundation of structures and public infrastructure.
3. Reduce economic impacts associated with disruption of commerce and tourism.



NEXT STEPS: ENGAGEMENT



July 2022 Workshops

- Goal: Discuss and get feedback on focused array of alternatives.
- A series of in-person and/or virtual meetings
- Objectives:
 1. Discuss study progress, revisit schedule, outline next steps.
 2. Discuss results of measure/alternative screening and those still under consideration.
 3. Community feedback on alternatives and measures.
 4. Identification of secondary impacts.

Continuous Engagement Opportunities

- Management measure tracker spreadsheet updates.
- Website update notifications – email sign up on website.
- Website comment form.



DISCUSSION GROUPS (20 MINUTES)



Webex main room. (here)

Facilitator: Ben Reder

Discussion group 1.

Facilitators: Tyson Vaughan and Kelley Philbin (technical lead)

Discussion group 2.

Facilitators: Eric Merriam (study lead) and Cindy Acpal (project manager)

(Random assignment.)



DISCUSSION GROUPS: QUESTIONS



1. Do you have any unanswered questions about specific measures, mentioned or not mentioned, assessed or not yet assessed?
2. Are we still missing any additional measures?
3. Any new information that we need to know?



GROUND RULES: DISCUSSION GROUPS



1. Post comments and questions in the chat or use the “raise hand” tool.
2. Keep your audio on mute unless speaking.
3. Introduce yourself briefly the first time you speak.
4. When speaking, be conscious of acronyms and technical language.
5. Be mindful and help ensure that others have a chance to speak.



LARGE-GROUP DISCUSSION / Q & A



1. What else do we need to know or consider for our technical analysis and planning?
2. What questions do you have about process, schedule, next steps, or how to stay engaged?



NEXT STEPS: ENGAGEMENT



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Continuous Engagement Opportunities

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- Website comment form.



MAHALO



Thank you for your participation! Please stay engaged:

- Email the project team: AlaWai@Honolulu.gov.
- Last chance to post on Crowdsource Reporter! **(until April 30)**
<https://lrp.maps.arcgis.com/apps/CrowdsourceReporter/index.html?appid=df9e77cff6454945ad3dc75716a044ec>
- Check the project website: <https://www.honolulu.gov/AlaWai>.
 - Sign up for additional meeting notifications
 - Comment form
 - Continuously updated FAQs
 - **Updated management measure and alternative plan tracker**